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EXAMINER	
CHOI, PETER H	

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 05/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/682,000	KITTS, BRENDAN J.	
	Examiner	Art Unit	
	Peter Choi	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6,7,10,11,15,16 and 19-24* is/are pending in the application.

4a) Of the above claim(s) *21-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 2, 6, 7, 10, 11, 15, 16 and 19-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 24, 2006 has been entered.

Claims 3, 4, 5, 8, 9, 12, 13, 14, 17 and 18 have previously been canceled in compliance with the Restriction Requirement made in the Office Action mailed 7/11/05. Claims 1, 10, 15 and 16 have been amended and claims 19-24 have been added.

Newly submitted claims 21-24 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Claim 21 is directed towards utilizing a geographic model to assess business potential, as set forth in non-elected Species III and IV.

Claim 22 is directed towards utilizing a geographic indicator to assess business potential, as set forth in non-elected Species IV.

Claim 23 is directed towards using the distance between a customer and a store to assess business potential, as set forth in non-elected Species III.

Claim 24 is directed towards matching customer to their area (based on zip code, telephone number, etc.) to assess business potential, as set forth in non-elected Species IV.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 21-24 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claims 1, 2, 6, 7, 10, 11, 15, 16 and 19-20 are pending in the application.

Claim Rejections - 35 USC § 112

2. The rejection of claim 15 raised under 35 U.S.C. 112, second paragraph, is withdrawn in view of amendments made by the Applicant.

Response to Arguments

3. Applicant's arguments filed March 24, 2006 have been fully considered but they are not persuasive.

Applicant argues that the scores taught by Anderson are directed to a relative interest in a product, not a particular vendor. Similarly, Applicant argues that neither Anderson nor Lazarus disclose the step of assigning a value for the business potential for a customer with respect to a particular vendor.

The Examiner respectfully disagrees. Anderson does not limit the metrics by which customer records are scored. In one embodiment of Anderson, a sales agent specifies in the search request a set of mandatory preferences and a set of desired preferences [Column 3, lines 41-43]. These preferences are used to assign scores to customer records.

The Examiner asserts that the Anderson invention would be performed the same regardless of the specific preference (interest in a product vs. interest in a vendor) used to score customers.

Similarly, the Examiner asserts that aggregating customer interest in the product offerings of a vendor would yield the customer interest in the specific vendor. For

example, if Vendor A sold products X, Y, and Z, by aggregating the customers who are interested in products X, Y, and Z, the interest of said customers in Vendor A may be calculated.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 6, 7, 10, 15, 16 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (U.S Patent #6,078,892) in view of Lazarus et al. (U.S Patent #6,430,539).

As per claim 1, Anderson et al. teaches a method of predicting a business potential for a first customer comprising:

accessing **(searching customer records which are preferably stored in a marketing database)** data stored on a computer-readable medium **(marketing database; any conventionally known storage device, including but not limited to a database and CD ROM, as well as various types of optical and magnetic storage media)** regarding the first customer **(a plurality of customer records each containing**

data relating to a different customer) of a particular vendor [Column 2, lines 43-53, Column 4, line 66 – Column 5, line 2, Column 6, lines 54-55; Claim 1; Abstract]; and

assigning a value **(assigning scores)** for the business potential for the first customer, wherein the value is a function of at least a behavior **(affinity for particular products)** for a group of other individuals in a population **(Customers 1 through N)** and is based at least in part on the data **(scores indicating a relationship between a respective one of said customer records and a product)** [Column 7, lines 26-51 and Claim 1].

Anderson et al. does not explicitly teach a business potential that measures a potential transaction quantity available for the first customer of a particular vendor using data pertaining to one or more transactions between said first customer and said vendor. However, Lazarus et al. teaches a predictive model of future consumer spending patterns (a measurement of potential transaction quantity), specifically using consumer transaction data.

Each consumer is given a profile that includes various demographic data, and summary data on spending habits [Column 3, lines 55-57]

Current spending data of an individual consumer or groups of consumers can then be applied to the predictive models to predict future spending of the consumers in each of the merchant clusters [Column 3, lines 5-10].

Lazarus et al. creates a predictive model of future spending in each merchant segment, based on transaction statistics of historical spending in the merchant segment by those consumers who have purchased from merchants in the segments, in other segments, and data on overall purchases. In one embodiment, each predictive model predicts spending in a merchant cluster in a predicted time interval [Column 4, lines 11-18].

To predict financial behavior, the consumer profile of a consumer, using preferably the same type of summary statistics for a recent, past time period, is input into the predictive models for the different merchant clusters. The result is a prediction of the amount of money that the consumer is likely to spend in each merchant cluster in a future time interval [Column 4, lines 38-45].

Anderson et al. is directed towards retrieving customer information from a database and determining a score representative of customer relevance to a particular item of interest. Lazarus et al. is directed towards the analogous art of analyzing consumer transaction data to generate predictive models of future spending. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Anderson et al. to include a measurement of potential transaction quantity using data pertaining to one or more transactions between a customer and a specific vendor, because the resulting invention would enable

companies to selectively identify populations of consumers (for example, those with predicted high or low dollar amounts or transaction rates) for targeted promotions by applying spending data to predictive models to predict future spending behavior, which increases the success rate of response to said promotions, leading to increased revenue, profitability, and positive consumer response as evidenced by an increase of purchases of products and/or services.

As per claim 6, Anderson et al. teaches the method of claim 1, further comprising:

storing **(storing data records as a collection of data records)** the data on a computer-readable medium **(within a database containing a plurality of data records each containing information of interest; marketing database; any conventionally known storage device, including but not limited to a database and CD ROM, as well as various types of optical and magnetic storage media)**, wherein the acts of collecting, storing, accessing, and assigning are performed by the vendor [Column 2, lines 43-53, Column 4, line 66 – Column 5, line 2, Column 5, lines 45-47 and Column 11, lines 56-61].

Although not specifically taught by Anderson et al., it is inherent that the transactional data regarding customer purchases were internally collected from point-of-transaction terminals. Thus, the data is obtained and stored by the vendor, meeting the limitation of the claim.

Claim 15 is rejected on a similar basis.

As per claim 7, Anderson et al. does not explicitly teach the method of claim 1, wherein the method takes a computational time that is substantially directly proportional to N or N* log(N), wherein N is the number of transactions being analyzed.

However, Official Notice is taken that it is old and well known in the art that computational and search times are directly related to the number of records being analyzed.

Algorithms with a computation time of N require a single pass over an entire input. For instance, computing an average value requires the consideration of each value within the set.

Algorithms with a computation time of N * log(N) split the data set in half with each step. For instance, computing an average value for all consumers with an attribute value (i.e., income level, amount of predicted sales, number of items purchased, etc) of a specific level (i.e., at least $100,000 in income or sales, or 500 items purchased, etc).

Furthermore, the claim fails to contribute patentable weight, as computational time does impact the functionality of the claimed invention. Computational time is not

functionally involved in the steps recited nor does it alter the recited structural elements. The recited method steps would be performed the same regardless of computational time. Further, the structural elements remain the same regardless of the computational time. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP 2106.*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined teachings of Anderson et al. and Lazarus et al. to perform the step of assigning a value for business potential with a computational time proportional to N or N*log(N) because the resulting combination would ensure efficiency of the evaluation process, reducing associated costs with data analysis, and data maintenance.

Claim 16 is rejected on a similar basis.

As per claim 10, Anderson et al. teaches a data processing system readable medium having code embodied therein **(computer program embodied in a computer-readable medium)**, the code including instructions executable by a data processing system, wherein the instructions are configured to cause the data processing system to perform the steps of:

accessing **(retrieving)** data regarding the first customer **(data relating to different customers)** of a particular vendor [Claim 32]; and

assigning a value **(score)** for the business potential for the first customer, wherein the value is a function of at least a behavior **(affinity for particular products)** for a group of other individuals in a population **(Customers 1 through N)** and is based at least in part on the data **(scores indicating a relationship between a respective one of said customer records and a product)** [Column 7, lines 26-51 and Claim 32].

Anderson et al. does not explicitly teach a business potential that measures a potential transaction quantity available for the first customer of a particular vendor using data pertaining to one or more transactions between said first customer and said vendor. However, Lazarus et al. teaches a predictive model of future consumer spending patterns (a measurement of potential transaction quantity), specifically using consumer transaction data.

Each consumer is given a profile that includes various demographic data, and summary data on spending habits [Column 3, lines 55-57]

Current spending data of an individual consumer or groups of consumers can then be applied to the predictive models to predict future spending of the consumers in each of the merchant clusters [Column 3, lines 5-10].

Lazarus et al. creates a predictive model of future spending in each merchant segment, based on transaction statistics of historical spending in the merchant segment by those consumers who have purchased from merchants in the segments, in other segments, and data on overall purchases. In one embodiment, each predictive model predicts spending in a merchant cluster in a predicted time interval [Column 4, lines 11-18].

To predict financial behavior, the consumer profile of a consumer, using preferably the same type of summary statistics for a recent, past time period, is input into the predictive models for the different merchant clusters. The result is a prediction of the amount of money that the consumer is likely to spend in each merchant cluster in a future time interval [Column 4, lines 38-45].

Anderson et al. is directed towards retrieving customer information from a database and determining a score representative of customer relevance to a particular item of interest. Lazarus et al. is directed towards the analogous art of analyzing consumer transaction data to generate predictive models of future spending. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Anderson et al. to include a measurement of potential transaction quantity using data pertaining to one or more transactions between a customer and a specific vendor, because the resulting invention would enable companies to selectively identify populations of consumers (for example, those with

predicted high or low dollar amounts or transaction rates) for targeted promotions by applying spending data to predictive models to predict future spending behavior, which increases the success rate of response to said promotions, leading to increased revenue, profitability, and positive consumer response as evidenced by an increase of purchases of products and/or services.

As per claim 19, Anderson et al. teaches a method of predicting a business potential for a first customer comprising:

accessing first data stored on a computer-readable medium regarding the first customer **(retrieving customer lead information from a marketing database, said database storing a plurality of customer records each containing data relating to a different customer)** of a particular vendor [Claim 32]; and

accessing second data stored on the computer-readable medium regarding a set of customers **(retrieving customer lead information from a marketing database, said database storing a plurality of customer records each containing data relating to a different customer)** of the particular vendor [Claim 32].

Anderson et al. does not explicitly teach the steps of:

generating a set of group profiles based on the second data;

associating the first customer with one or more of the set of group profiles;

assigning a value for the business potential for the first customer based on the one or more group profiles associated with the first customer and the first data, wherein

the business potential measures a potential transaction quantity available for the first customer with respect to the particular vendor.

Lazarus et al. teaches the step of generating a set of group profiles based on data regarding a set of customers of the particular vendor **(After processing of the spending data, the merchant vectors of merchants which are frequented together are generally aligned in the same direction in the merchant vector space. Clustering techniques are then applied to find clusters of merchants based on their merchant vectors. These clusters form the merchant segments, with each merchant segment having a list of merchants in it.)** [Column 3, lines 44-50].

Lazarus et al. also teaches the step of associating customers with one or more of the set of group profiles **(Each consumer is given a consumer vector. From the spending data, the merchants that the consumer has most frequently or recently purchased is determined. The consumer vector is then the summation of these merchant vectors. Vectors of the merchants are used to construct the vectors of the consumers)** [Column 3, lines 57-61, 65-67].

Anderson et al. does not explicitly teach a business potential that measures a potential transaction quantity available for the first customer of a particular vendor using data pertaining to one or more transactions between said first customer and said vendor. However, Lazarus et al. teaches a predictive model of future consumer

spending patterns (a measurement of potential transaction quantity), specifically using consumer transaction data.

Specifically, Lazarus et al. teaches the step of assigning a value for the business potential for the first customer based on the one or more group profiles associated with the first customer and the first data **(a membership function may be defined which describes how strongly the consumer is associated with each merchant segment)**, wherein the business potential measures a potential transaction quantity available for the first customer with respect to the particular vendor **(the membership function may be the predicted future spending in each merchant segment, or it may be a function of the consumer vector for the consumer and a merchant segment vector; given the membership function, the merchant clusters for which the consumer has the highest membership values are of particular interest: they are the clusters in which the consumer will spend the most money in the future, or whose spending habits are most similar to the merchants in the cluster)** [Column 4, lines 46-48, 50-53, and 56-61].

Each consumer is given a profile that includes various demographic data, and summary data on spending habits [Column 3, lines 55-57]

Current spending data of an individual consumer or groups of consumers can then be applied to the predictive models to predict future spending of the consumers in each of the merchant clusters [Column 3, lines 5-10].

Lazarus et al. creates a predictive model of future spending in each merchant segment, based on transaction statistics of historical spending in the merchant segment by those consumers who have purchased from merchants in the segments, in other segments, and data on overall purchases. In one embodiment, each predictive model predicts spending in a merchant cluster in a predicted time interval [Column 4, lines 11-18].

To predict financial behavior, the consumer profile of a consumer, using preferably the same type of summary statistics for a recent, past time period, is input into the predictive models for the different merchant clusters. The result is a prediction of the amount of money that the consumer is likely to spend in each merchant cluster in a future time interval [Column 4, lines 38-45].

Anderson et al. is directed towards retrieving customer information from a database and determining a score representative of customer relevance to a particular item of interest. Lazarus et al. is directed towards the analogous art of analyzing consumer transaction data to generate predictive models of future spending. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to

modify the teachings of Anderson et al. to include a measurement of potential transaction quantity using group profiles generated based on data pertaining to one or more transactions between a customer and a specific vendor, because the resulting invention would enable companies to selectively identify populations of consumers (for example, those with predicted high or low dollar amounts or transaction rates) for targeted promotions by applying spending data to predictive models to predict future spending behavior, which increases the success rate of response to said promotions, leading to increased revenue, profitability, and positive consumer response as evidenced by an increase of purchases of products and/or services.

As per claim 20, although not explicitly taught by Anderson et al., Lazarus et al. teaches the method of claim 19, wherein the set of group profiles are generated based on a model **(for each consumer, applying the input transactions of the consumer to each of a plurality of merchant segment predictive models, each merchant segment predictive model defining for a group of merchants a prediction function between input transactions in a past time interval and predicted spending in a subsequent time interval, to produce for each consumer a predicted spending amount in each merchant segment)** [Claim 1].

6. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (U.S Patent #6,078,892) and Lazarus et al. (U.S Patent #6,430,539) as

applied to claims 1 and 10 above, and further in view of Jim Novo's "Relationship in Relationship Marketing"

As per claim 2, Anderson et al. teaches the method of claim 1, further comprising:

determining an individualized result **(score)** and a group-wide result **(scores of all customers 1 through N)** [Column 7, lines 26-51 and Claim 1]; and

comparing **(ordering)** the individualized result with the group-wide result [Column 8, lines 36-41 and Claim 1].

Anderson et al. does not teach the step of determining individual and group-wide results based on the amount spent by the customer during a transaction or time period. However, Novo teaches the step of ranking all of a company's customers by the amount of money spent and also by the frequency and recency of visits or purchases.

Anderson et al. is directed towards retrieving customer information from a database and determining a score representative of customer relevance to a particular item of interest. Lazarus et al. is directed towards the analogous art of analyzing consumer transaction data to generate predictive models of future spending. Novo is directed to the analogous art of retrieving customer information to rank customers in an order indicative of customers with higher economic value and greater profitability.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined teachings of Anderson et al. and Lazarus et al. to include the step of ranking customers according to the amount spent during a transaction period because the resulting combination would enable a company to obtain a relative and absolute measure regarding each customer's value to the company.

As per claim 11, Anderson et al. teaches the data processing system readable medium of claim 10, wherein the instructions are further configured to cause the data processing system to:

determining an individualized result **(score)** and a group-wide result **(scores of all customers 1 through N)** [Column 7, lines 26-51 and Claim 32A]; and

comparing **(ordering)** the individualized result with the group-wide result [Column 8, lines 36-41 and Claim 32E].

Anderson et al. is a computer-implemented process; thus, each step is encoded and configured to cause the computer to perform a plurality of tasks. Therefore, the limitation of the claim is met. [Further see claim 32, which claims a computer program embodied in a computer-readable medium for retrieving customer lead information from a marketing database, said database storing a plurality of customer records each containing data relating to a different customer, said program being performed on or with aid of a customer and including code means for causing the computer to assign

scores to said plurality of customer records, each of said scores indicating a relationship between a respective one of said customer records and a product]

As stated above, Anderson et al. does not teach the step of determining individual and group-wide results based on the amount spent by the customer during a transaction or time period. However, Novo teaches the step of ranking all of a company's customers by the amount of money spent. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Anderson et al. to include the step of ranking customers according to the amount spent during a transaction because the resulting combination would enable a company to obtain a relative and absolute measure regarding each customer's value to the company.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Choi whose telephone number is (571) 272 6971. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter Choi
Examiner
Art Unit 3623

PC

May 10, 2006

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
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